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CALIFORNIA EARTH SCIENCE CORPORATION

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CONTRACT NAS 2-7698
MONTHLY PROGRESS REPORT NO. 6
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Fault Tectonics and Earthquake Hazards in the Peninsular Ranges, Southern California, EREP Investigation 463

NASA, Ames Research Center
Mail Code 241-1
Moffett Field, CA 94035

Attention: Mr. Gabriel Fox
Contracting Officer

Gentlemen:

California Earth Science Corporation (CalESCO) is pleased to submit its 6th Monthly Progress Report on the application of Skylab imagery to analysis of fault tectonics and earthquake hazards in the Peninsular Ranges, southern California under NASA contract No. NAS 2-7698.

Summary Outlook

The principal plans for the immediate future are to continue analysis of image from SL1/SL2. The milestone plan provides a time-oriented schedule of the enti effort to be performed.

Significant Progress

1. SL1/SL2 Frame 114 of the Salton Sea area was studied in all bands to analyze the appearance of important faults. These faults were also studied in the field as well as from aircraft and in aerial photography.

   The San Andreas/Banning and the Mission Creek faults can be traced across Coachella Valley even though they are buried by alluvium. The faults form ground water barriers and the near surface ground water on the northeast sides of the faults supports patches of vegetation (mesquite and palms) in an otherwise barren desert. These oases are best seen in Band 3 (Color IR).

   Otherwise, faults are best seen in Band 4 (Aerial Color). Of the B & W bands, 5 (red) is best for delineating faults. Bands 1 and 2 are excessively grainy and the resolution is considerably inferior to the other bands.

2. U-2 Color IR 9 x 9 photos of the area east of the Salton Sea were received from Ames and are being used in the analysis of Skylab images.

3. Plans were made for generating a technical report documenting all background studies pertinent to interpreting imagery of the test site. The report is scheduled for submission in early 1974.

4. The processing of the duplication film using DK-50 developer was recalibrated to allow more latitude in the intermediate black-and-white density range.

5. Programming to process SO 192 data was initiated.

Expected Accomplishments, Current Month

1. Analysis of SL1/SL2 imagery will be continued.

2. The pseudocolor transformation of the Salton Sea image will be created.

3. The pseudocolor transformation of the separation image will be created.

4. Programs to process SO 192 data will be completed.

5. Supporting studies will be continued.

Travel Summary and Plans

Dr. D. L. Lamar will attend the ERTS Symposium in Washington, D.C., Dec. 10-13 on other business but will confer with other Skylab investigators in attendance. Field checks of faults imaged in SL1/SL2 will continue during December.

Very truly yours,

CALIFORNIA EARTH SCIENCE CORPORATION

Paul M. Merifield

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